Office of the State
Department
of Education

Public
School Information

2012
Legislative
Report

Idaho Math Initiative

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Idaho Math Initiative

BACKGROUND

In 2007, the Idaho Legislature appropriated $350,000 in the FY2008 Public Schools Budget for the Idaho State Department of Education (SDE) to develop the Idaho Math Initiative, a comprehensive initiative to improve math education across all grades and ensure all students graduate from high school prepared for the world that awaits them. With this seed money, Superintendent of Public Instruction Tom Luna created the Idaho Math Initiative Task Force made up of members representing teachers, principals, superintendents, school board trustees, legislators, higher education and the business community. *(See Appendix A for full list of Math Initiative Task Force members.)* The Task Force met monthly throughout 2007 to develop a comprehensive plan for improving math education across K-12 grades and presented its final recommendations to the 2008 Legislature. Based on the Task Force's recommendations, the Legislature appropriated $3.9 million in both the FY2009 and FY2010 Public Schools Budgets for the SDE to implement the Idaho Math Initiative. For FY2011 and 2012, the Legislature had to reduce funding and combined the Idaho Math Initiative, Idaho Reading Initiative and ISAT Remediation funding into one line item in the Public Schools Budget, totaling $9.4 million. The SDE distributed $2.7 million of this appropriation for the Idaho Math Initiative for both FY2011 and FY2012. Superintendent Luna has requested the same appropriation in FY2013.

The Idaho Math Initiative focuses on three main areas: student achievement, teacher education, and public awareness. The following is an outline of how the SDE used the appropriated $3.9 million to implement the Idaho Math Initiative in the 2008-2009 and 2009-2010 school years, and $2.7 million in the 2010-2011 and 2011-2012 school years.

STUDENT ACHIEVEMENT

Raising Standards – Common Core State Standards (CCSS): In 2009, Idaho signed on to help develop the Common Core State Standards for mathematics and English language arts. The final standards were published in June 2010, and Idaho adopted these standards in January 2011. The Common Core State Standards are college- and career-ready standards comparable with any other country in the world. The standards will be implemented in Idaho classrooms in the 2013-2014 school year.

Idaho teachers and educators have been involved throughout this process. In July 2010, teacher leaders from around the state participated in a Side-by-Side Gap Analysis of our current State Standards and the Common Core State Standards. This analysis showed that 76 percent of Idaho's current math standards matched the new Common Core State Standards for mathematics. The remaining 24 percent were not a match. The Common Core State Standards are more rigorous than Idaho's current standards. This is evident in the Common Core State Standards rigorous introduction of math concepts in the early

grades. This is to ensure that students gain a solid foundation in mathematics before they progress into more advanced math courses, such as algebra, geometry or calculus.

Professional Development for Idaho Teachers and Administrators:

Fall 2011 - Common Core State Standards Training

Region	Location	Date
5	Pocatello	October 13, 2011
6	Idaho Falls	October14, 2011
2	Lewiston	October 27, 2011
1	Coeur d'Alene	October 28, 2011
4	Twin Falls	November 1, 2011
3	Meridian	November 2, 2011
3	Meridian	December 14, 2011

Districts were asked to bring leadership teams of 4-6 members including:

A district administrator, special education director, Federal Programs Director, Curriculum Director, Principal, and those that are instructional leaders and decision-makers in your district. Examples of others you may include: Teacher (General Education, LEP, Title 1, and Special Education), Instructional coach

The sessions provided:

- Understanding of Common Core State Standards (CCSS) and Assessment
- Knowledge and tools needed to support district professional learning
- Strategies to link CCSS to current state and district initiatives
- Information and time to discuss and plan for district integration of CCSS

Spring 2012Common Core State Standards (CCSS) Math Support Conference - Idaho Math Initiative

For Spring 2012, further CCSS training will occur statewide, in all six regions. The one-day, CCSS Math Support Conference will provide districts with further math support by communicating CCSS & assessment updates, support for district's English Language Learners and Special Education, and continuing support through the Mathematically Thinking for Instruction (MTI) and Apangea follow-up opportunities.

Conference session topics will include:

- Students Come First and School Net Updates
- CCSS and SMARTER Balanced Assessment Consortium (SBAC) Updates
- CCSS implementation, content progressions, depth of knowledge, and modeling

- MTI follow-up opportunities
- Apangea update with CCSS integration
- MTI and English Language Learners
- MTI and Special Education

Location & Dates

Region	Location	Date
3	Meridian	March 15, 2012 – Thursday
4	Twin Falls	March 16, 2012 – Friday
1	Coeur d'Alene	April 26, 2012 – Thursday
2	Lewiston	April 27, 2012 – Friday
6	Idaho Falls	May 3, 2012 – Thursday
5	Pocatello	May 4, 2012 - Friday

Attendance: Participating districts are asked to bring a Leadership Team of up to eight members; recommended members include a district administrator, LEP and/or Special Education Director, Curriculum Director, Principal, at least one teacher & other instructional leaders in your district. Larger 5A districts may bring two teams of 6 members.

Communication has been sent out to district superintendents through email and the SDE Weekly Superintendent newsletter. Registration is currently open; feedback is positive and numerous districts have signed up.

Summer 2012 - Common Core State Standards Training

The 2012 Summer Institute of Best Practices will be a venue to provide educators more in-depth topics on the Common Core State Standards.

Assessment:

A primary goal of the Idaho Math Initiative is to improve current assessments to ensure they better measure students' progress in math and provide useful tools to help teachers guide instruction.

End-of-Course Assessments: In Fall 2010, the State Department of Education worked with 50 math and science teachers for a week to create end-of-course assessments in six courses, including pre-algebra, algebra I, and geometry. These tools can be used not only to create end-of-course assessments, but also for benchmark or interim testing throughout the semester. The online capabilities were deployed to six pilot districts through Schoolnet, the classroom management system portion of the statewide longitudinal data system. Remaining districts have access to the paper and pencil versions of the end-of-course assessments.

Intervention:

Upon assessing and determining a student's instructional needs, the classroom teacher and school must use these results for instructional planning purposes.
If a student is struggling, they should receive immediate intervention. If a student is excelling, advanced opportunities are needed. Since 2008, the state has contracted with Apangea Learning, a web-based supplemental math instruction service, to provide additional support and opportunities for students who are struggling, as well as for those who excel in mathematics.

Apangea Learning Math is an online, supplemental math instruction and tutoring program that will help raise student achievement in Idaho by providing students with focused instruction, rigorous math problems, access to live certified teachers and a motivation program with rewards for working on math problems. Apangea Learning works with the classroom teacher to tailor the online math instruction to the needs of the individual student. Students can access the program anywhere they get Internet access - whether at home, at school or in a library. Currently, schools in more than 25 states across the country are using Apangea Learning Math as a supplement to instruction and noticing increased student achievement.

2011-2012 snapshot of Apangea Math use in grades 4-12 through Feb 3, 2012:

- 45,739 Student Accounts Created in 105 School Districts and 278 Schools
- Problems Completed: 5.8 million problems
- Total Time Using Apangea: 131,450 hours
- Added Instructional Time Using Apangea Outside the School Day: 47,810 hours (the equivalent of 63,746 additional math classes)
- Holiday break math problems completed: 87,065
- Christmas Eve & Christmas Day math problems completed 5,286

Apangea 2010-2011 School Year Usage Metrics

SY 2010-2011	SY 2011-2012	% Change
Thru 12-19-2010	Thru 12-19-2011	
24,147 Enrolled	44,119 Enrolled	**83% Growth**
15,752 Active	22,340 Active	**42% growth**
58,603 Total Hrs.	95,096 Total Hrs.	**62% growth**
24,952 Hrs. Outside of School	38,925 Hrs. Outside of School	**56% growth**

38,925 Outside of school hours amounts to **51,900** extra math classes or **288** extra school years of math

Apangea has multiple means of engaging students in mathematics. In addition to their innovative online program, Apangea challenges students to increase their math achievement and to help others in the process. Below are several ways Apangea is motivating students.

Idaho Math Challenge
Each year, the Idaho State Department and the Idaho Math Initiative partners with Apangea Math to get Idaho's students to complete more math problems; this is accomplished through the Idaho Math Challenge where students across the state are challenged to answer a record number of questions for the year. As a part of the 2011-2012 Idaho Math Challenge, Idaho's students are being asked to solve 10 million problems on Apangea by the end of July.

Idaho Math Cup
The annual Idaho Math Cup has students across the state competing for the title of Idaho Math Cup Champion. The winning class will receive the coveted Idaho Math Cup and an awards ceremony where each student will receive special recognition, complete with customized certificates and T-shirts. Apangea will also name Regional Class Champions that will receive a special pizza party prize package and Individual Champions that will receive movie passes, an Xbox 360, or Amazon gift cards.

Motivational Program
Students can also help national, nonprofit organizations, as well as local Idaho organizations, such as the Idaho Meth Project, the YMCA Healthy Kids Campaign, and the Idaho Food Bank. Students can participate by turning in the points they earn on the program for cash donation to their favorite charity. For the school year, Idaho students have currently made 1,104 donations.

Idaho Math Network
In addition to their online support program, Apangea has created the Idaho Math Network that reaches out to the community. Through the Idaho Math Network, the following systems of support have occurred:

- Eight parent nights across the state have been conducted
- PTA/PTO groups have signed up to take part in a Apangea Math-a-Thon Fundraiser
- Boys and Girls Clubs Partnership
- Building State Level B&G Club partnership
- Treasure Valley YMCA Partnering with Strong Kids Campaign
- Boise Rescue Mission - Providing access to homeless children as a part of their computer lab program
- Library Programs - Continuing to provide information and posters, collaborating on parent involvement, and updated training for new program

Apangea's next areas of focus are to increase usage as the state heads into ISAT testing, by having ongoing coaching and consultations, increasing the number of online and onsite professional development, and motivational events. Another area of focus would be building the Idaho Math Network.

TEACHER EDUCATION

Mathematical Thinking for Instruction Course:

The Idaho Math Initiative recognizes that the most important factor in a student's academic success is the quality of the teacher in the classroom. Therefore, the Math Initiative largely focuses on offering professional development to give Idaho teachers the tools they need to improve math education for all students. The MTI course was developed by the Idaho Math Initiative Task Force, a committee of educators under the direction of the Idaho State Department of Education and Dr. Jonathan Brendefur, director of the Institute of Developing Mathematical Thinking Institute, at Boise State University. The MTI course is a three-credit course that gives Idaho teachers and administrators the best practices, content knowledge, and teaching strategies they need to help all students succeed in math.

Based on feedback from the task force, the MTI course was split into three different sections based on grade level -- grades K-3 focusing on number sense, grades 4-8 focusing on rational number, and grades 6-12 focusing on algebraic thinking. (*See Appendix B for full MTI Course Descriptions.)* All grade-level courses provide further professional development support with implementation of the Common Core State Standards. The course, at each grade level, focuses on student learning by concentrating on five main ideas that are interwoven throughout the instruction: take students' ideas seriously, encourage multiple strategies, press students conceptually, address misconceptions, and focus on the structure of the mathematics.

The MTI course is similar to the comprehensive literacy course, which is required under the Idaho Reading Initiative. The Idaho State Board of Education and House Education Committee have approved the MTI course for recertification in 2014. Select teachers and administrators will be required to take only one of these courses by 2014 for recertification. Teachers and administrators have a choice of which class they take, but they are strongly encouraged to take the course that most closely matches their teaching assignment.

Pursuant to Idaho Board Rule, IDAPA 08.02.02.016.01 *(Appendix C)*, in order to recertify, a select group of Idaho educators and administrators are required to take one of the three state approved mathematics instruction courses titled *Mathematical Thinking for Instruction (MTI)*, prior to September 1, 2014. The following educators are required to successfully complete the course:

- Each teacher holding an Early Childhood/Early Childhood Special Education Blended Certificate (Birth - Grade 3) who is employed in an elementary classroom (multi-subject classroom, K-8);
- Each teacher holding a Standard Elementary Certificate (K-8);
- Each teacher holding a Standard Secondary Certificate (6-12) teaching in a math content classroom (grade six (6) through grade twelve (12)) including Title I classrooms;
- Each teacher holding a Standard Exceptional Child Certificate (K-12); and
- Each school administrator holding an Administrator Certificate (Pre K-12).

The State Department of Education pays for the delivery of the Mathematical Thinking for Instruction course with state funding. Credits for completing the MTI course are not paid for by the state. However, Idaho Code 33-1004A *(Appendix D)* allows completion of the course to carry the same weight as three transcript graduate credits for the purposes of recertification and movement across the state salary schedule.

Of the 12,700 educators and administrators who are required to complete the MTI course, an estimated 66 percent have done so, to date. The following depicts the number of teachers and administrators, by region, who have completed the MTI course through Fall 2011.

Region I	911
Region II	708
Region III	3,631
Region IV	1,143
Region V	750
Region VI	1,232
Unspecified	28
Total	8,403

The current Spring 2012 session includes 23 classes across the state, in all six regions. Close to 650 educators and administrators will be in attendance. The summer schedule will be posted March 15, 2012 on the MTI main webpage and will include approximately 55 course offerings, statewide. With approximately 30 participants for each class, the approximate attendance will be 1650 educators and administrators. Upon completion of the Spring and Summer 2012 sessions; approximately 84 percent of mandated personnel will have completed the course.

Based on an outside evaluation of the MTI course completed by RMC Research Corporation, the state received the following findings:

- Inventories of teachers and administrators content and pedagogical knowledge consistently indicated that teacher knowledge significantly increased, and these results were highly statistically significant.

- Teachers felt more prepared to teach the entire range of topics covered in the classes.
- Participants indicated that they thought course learning were being applied in the classroom and that classroom practice was being impacted.
- It was specifically noted that the process benefits struggling learners and English language learners.

Regional Specialists:

We realize that changing teacher thinking about mathematics will continue to be a challenge and educators need continued follow up for the strategies being taught in the MTI to be fully implemented. The mission of the Idaho Math Initiative is to provide ongoing support and professional development to teachers in every region. Regional specialists, located in all six regions of the state, teach the MTI course as well as provide ongoing support. With this support, teachers will continue to have the resources to guide classroom instruction and improve their teaching methodology in order to reach every student.

MTI Follow-Up

The MTI course lays the foundation for enhancing the content knowledge of teachers; the MTI follow-up work addresses the following key elements:

- Continued deepening of content knowledge
- Continued study of student thinking/work
- On-going opportunities for teachers to apply their newly acquired knowledge to their practice, and reflect on the changes to their practice
- Collaboration and collegiality
- Should be intensive and sustained over time

In addition to teaching MTI courses, the regional math specialists engage in several MTI follow-up activities that address these key elements with teachers and administrators throughout the year. All follow-up opportunities provide further professional development support with implementation of the Common Core State Standards. The following topics are a sample of the various follow-up activities the regional math specialists developed, coordinated and facilitated this year.

Unit Studies – Project Schools

Each regional math specialist and the associate director took on one to two project schools this year to implement the Unit Study model and provide intensive school or department-wide support in the form of demonstration lessons, observations and technical support. The unit study model utilizes the combined aspects of research from Japanese lesson study, Professional Learning Communities and the Developing Mathematical Thinking (DMT) project to provide a framework from which teachers can reflect and improve upon classroom math instruction aligned to the Common Core State Standards. This is a collaborative process where

teachers from common grade levels plan a unit of study that they will teach. The goal of the meeting is to lead grade-level team through the unit study process to provide them the time and framework to meaningfully plan for the implementation of a mathematics unit built around the ideas from the MTI course. After the unit is taught, teachers use pre and posttest data and notes on their instructional approaches to determine the effectiveness of the unit. RMS's facilitate the unit study meetings in their project schools and on several occasions implemented the unit study process with various grade-level teams upon request.

The intensive support from the project school model was very successful in terms of the feedback from the teachers and administrators at the project schools. However, with the increasingly large number of teachers who want support following the MTI course and only six regional math specialists to support these teachers, we may need to examine the project school model for Year 4 of the project to determine whether there are more scalable ways to provide the unit study framework to a larger number of teachers across the state.

Follow-Up Courses
All of the regional math specialists and the associate director facilitated at least one 1-credit follow-up course for teachers who had completed the MTI course in their regions and several regional math specialists facilitated more than one course for their region(s). In addition, two of the regional math specialists partnered with district personnel in their region to assist them in hosting their own MTI follow-up courses. The MTI follow-up courses tend to focus on the key elements of, continued deepening of content knowledge to assist with the implementation of the Common Core State Standards, continued study of student thinking/work, and on-going opportunities for teachers to apply their newly acquired knowledge to their practice, and reflect on the changes to their practice. This is often completed through the unit study framework.

See *Appendix E* for an example of a MTI follow-up course sample syllabus.

Workshops
Several MTI workshops were developed to continue to focus on deepening of content knowledge, and study of student thinking and work. A variety of formats were used that could accommodate workshops on Saturdays, after-school or during school in-service times. All the regional math specialists developed, piloted and facilitated these workshops throughout the year. The response to the workshops was very good and we anticipate continuing them for Year 4 of the project.

See *Appendix F* for a title and description of a sample of the MTI workshops developed.

Webinars
The 2012 MTI webinars are designed to support school personnel in implementing the concepts and instructional strategies from the Mathematical Thinking for Instruction (MTI) course. In addition, the webinars focus on building familiarity and understanding of the Common Core State Standards (CCSS) by examining strategies, models and contexts that support their implementation. Professional education credit is an option with webinar participation.

Leadership Conference
Three regional Leadership Conferences were held throughout the spring of 2011, at the following locations: Meridian, Idaho Falls, and Coeur d'Alene. The regional math specialists and Developing Mathematical Thinking (DMT) personnel hosted the one day MTI leadership conference to facilitate conversation around and assist with the implementation of ideas learned during the MTI course in an effort to help districts support their teachers. The spring 2011 leadership conferences contained a focus on the unit study model and the relationship between the MTI course content and the newly adopted Common Core State Standards. The spring leadership conferences all covered the same content but were spread out around the state to better reach the districts in each of these areas.

MTI Instructor's Conference
The yearly MTI Instructors' Conference was held in Meridian on October 19th and 20th of 2011, with 28 and 27 participants, respectively. Participants of the MTI Instructor Conference were provided with opportunities to enhance their understanding of the topics relevant to all of the MTI classes. They were also provided opportunities to develop the knowledge and skills required to facilitate mathematics professional development at various grade levels. Emphasis was given to enhancing content knowledge for teaching, knowledge of how students develop mathematical understanding, knowledge of how teachers learn, and collaboration and coaching support skills. Participants studied contemporary research in mathematics education and professional development. Special Focus on building a progression of strategies and models linked to the Common Core Standards for several content areas; including, addition, proportional reasoning, and fractions.

MTI Newsletter
The MTI project personnel worked collaboratively to develop a newsletter, *The MTI Update*, to provide information and resources for MTI course participants once they had completed the course. For the 2010-2011 school year, *The MTI Update* was distributed three times throughout the year. The database currently has more than 4,000 active e-mail addresses of past course participants who now receive the newsletter.

PUBLIC AWARENESS

In the past year, the State Department of Education has worked to improve community awareness and family involvement to help raise student achievement in mathematics statewide. We have done this through continuous work with different groups and in partnership with the Micron Foundation to provide Family Math Night kits.

Focus Groups:

State Mathematics Coordinator Christine Avila continues to discuss the Idaho Math Initiative to various groups throughout the state. Her statewide presentations have included the Annual Superintendent's Meeting, iSTEM Conference, Idaho Science, Mathematics, and Technology Coalition, Idaho Council of Teachers of Mathematics members, and CCSS presentations at the RtI modules across the state. Upcoming scheduled presentations include regional meetings, regional CCSS meetings and the Idaho Middle Level Association's annual meeting.

Family Math Nights: To increase parental involvement and awareness, Family Math Nights are hosted by local schools, where parents and students come together for one night of fun-filled math activities. In partnership with the Micron Technology Foundation, the Idaho State Department of Education assembled over 100 *Math Fun d'Mentals* kits for Idaho's school districts to use when hosting a Family Math Night. The *Math Fun d'Mentals* kit helps students develop their mathematical understanding through active engagement in fun activities. These activities encourage students to build on what they already know, and to verbally express how they know it. The kit also helps to actively engage parents in their children's education. Feedback from surveys is extremely positive.

The Department of Education's final assembly of the math kits was in the spring of 2010. In addition to district kits, kits are available for check out through our Regional Math Specialists.

See *Appendix G* for a list of schools.

For Additional Detailed Information on the Idaho Math Initiative components, please see *Appendix H* for a list of websites.

Appendix A – Idaho Math Initiative Task Force Members

- Michael McGuire: Superintendent, West Bonner County School District, Priest River
- Dr. Lonnie Barber: Asst. Superintendent, Blaine County School District, Hailey
- Jan Harwood: Principal at Jefferson Elementary School in Pocatello and ICTM President
- Karen Echeverria: Executive Director, Idaho School Boards Association
- Kami Faylor**:** Business Representative, Micron Foundation
- Dr. Jonathan Brendefur: Math education professor, BSU
- Brenda Laws: Parent Representative, Idaho PTA
- Christina Tondevold: Contact Teacher, Idaho Distance Education Academy
- Cathy Edmonson: Elementary Teacher Representative, Lewiston School District
- Jayne Heath: High School Teacher, Council School District
- Bonnie Farmin: Director of Curriculum and Instruction, Kellogg School District
- Cindy Sisson: Curriculum Coordinator, Meridian School District
- Jennifer Quintero: Idaho Digital Learning Academy
- Rep. Steven Thayn: Legislative representative
- Christina Linder: State Department of Education staff, Director of Certification
- Cindy Johnstone: State Department of Education, Math Coordinator
- Rob Sauer: State Department of Education, Deputy Superintendent of Great Teachers and Leaders

Appendix B – MTI Course Descriptions

Mathematical Thinking for Instruction (MTI) Course Descriptions

The MTI courses will focus on how students successfully learn math. These courses are designed to support teachers by educating them about the latest research on how children learn mathematics and how to effectively teach mathematics. Below are more detailed descriptions of each of the courses.

Mathematical Thinking for Instruction Course (MTI) Grades K-3, 3 credits

This course provides an opportunity to study fundamental mathematical theory underlying the content area of number and operation and student reasoning of number and operation topics. Topics will include child cognitive development, early numeracy, issues of number, meanings of operations and how they relate to one another, and computation within the number system as a foundation for algebra. Emphasis will be given to developing ideas of student mathematical development, increasing participants' content knowledge, and instructional practices that promote student understanding of mathematics.

Mathematical Thinking for Instruction Course (MTI) Grades 4-8, 3 credits

This course provides an opportunity to study fundamental mathematical theory underlying the content area of number and operation and student reasoning of number and operation topics. Topics will include number systems, ways of representing numbers, meanings of operations and how they relate to one another, and computation within the number system as a foundation for algebra. Emphasis will be given to developing ideas about multiplicative thinking and proportional reasoning.

Mathematical Thinking for Instruction Course (MTI) Grades 6-12, 3 credits

This course provides an opportunity to study fundamental mathematical theory underlying the content area of number and operation and structures of algebraic thinking. Topics will include working with qualitative and quantitative change and the need to describe and predict variation, the use of mathematical models and the understanding student thinking. Emphasis will be given to developing ideas about algebraic reasoning.

Appendix C – Idaho Administrative Code - IDAPA 08.02.02

IDAHO ADMINISTRATIVE CODE IDAPA 08.02.02
State Board of Education Rules Governing Uniformity

016. IDAHO EDUCATOR CREDENTIAL.

The State Board of Education authorizes the State Department of Education to issue certificates and endorsements to those individuals meeting the specific requirements for each area provided herein. (Section 33-1201, Idaho Code) (3-16-04)

01. Renewal Requirement - Mathematics In-Service Program. In order to recertify, the state approved mathematics instruction course titled "Mathematical Thinking for Instruction" shall be required. The "Mathematical Thinking for Instruction" course consists of three (3) credits (or forty-five (45) contact hours of in-service training).Teachers and administrators shall take one (1) of the three (3) courses developed that each teacher deems to be most closely aligned with their current assignment prior to September 1, 2014. Any teacher or administrator successfully completing said course shall be deemed to have met the requirement of Subsection 060.03.c. of this rule, regardless of whether such course is part of any official transcript. Successful completion of state approved mathematics instruction course shall be a one-time requirement for renewal of certification for those currently employed in an Idaho school district and shall be included within current requirements for continuing education for renewal. The following individuals listed in Subsection 016.01.a. through 016.01.e. shall successfully complete the "Mathematical Thinking for Instruction" course in order to recertify: (4-7-11)

a. Each teacher holding an Early Childhood/Early Childhood Special Education Blended Certificate (Birth - Grade 3) who is employed in an elementary classroom (multi-subject classroom, K-8); (3-29-10)

b. Each teacher holding a Standard Elementary Certificate (K-8); (3-29-10)

c. Each teacher holding a Standard Secondary Certificate (6-12) teaching in a math content classroom (grade six (6) through grade twelve (12)) including Title I classrooms; (3-29-10)

d. Each teacher holding a Standard Exceptional Child Certificate (K-12); and (3-29-10)

e. Each school administrator holding an Administrator Certificate (Pre K-12). (3-29-10)

02. Out-of-State Applicants. Out-of-state applicants shall take the state approved mathematics instruction course titled "Mathematical Thinking for Instruction" as a certification requirement. The "Mathematical Thinking for Instruction" course consists of three (3) credits (or forty-five (45) contact hours of in-service training). (3-29-10)

Appendix D – Idaho Code 33-1004A

TITLE 33
EDUCATION
CHAPTER 10
FOUNDATION PROGRAM -- STATE AID -- APPORTIONMENT

33-1004A. Experience and education multiplier. Each instructional and administrative staff position shall be assigned an appropriate multiplier based upon the following table:

EXPERIENCE AND EDUCATION

			MA	MA + 12	MA + 24	MA + 36	
Years	BA	BA + 12	BA + 24	BA + 36	BA + 48	BA + 60	ES/DR
0	1.00000	1.03750	1.07640	1.11680	1.15870	1.20220	1.24730
1	1.03750	1.07640	1.11680	1.15870	1.20220	1.24730	1.29410
2	1.07640	1.11680	1.15870	1.20220	1.24730	1.29410	1.34260
3	1.11680	1.15870	1.20220	1.24730	1.29410	1.34260	1.39290
4	1.15870	1.20220	1.24730	1.29410	1.34260	1.39290	1.44510
5	1.20220	1.24730	1.29410	1.34260	1.39290	1.44510	1.49930
6	1.24730	1.29410	1.34260	1.39290	1.44510	1.49930	1.55550
7	1.29410	1.34260	1.39290	1.44510	1.49930	1.55550	1.61380
8	1.34260	1.39290	1.44510	1.49930	1.55550	1.61380	1.67430
9	1.39290	1.44510	1.49930	1.55550	1.61380	1.67430	1.73710
10	1.39290	1.49930	1.55550	1.61380	1.67430	1.73710	1.80220
11	1.39290	1.49930	1.55550	1.61380	1.73710	1.80220	1.86980
12	1.39290	1.49930	1.55550	1.61380	1.73710	1.86980	1.93990
13 or more	1.39290	1.49930	1.55550	1.61380	1.73710	1.86980	2.01260

In determining the experience factor, the actual years of teaching or administrative service in a public school, in an accredited private or parochial school, or beginning in the 2005-06 school year and thereafter in an accredited college or university shall be credited, minus two (2); provided however, that the experience factor cannot be less than zero (0).

In determining the education factor, only credits earned after initial certification, based upon a transcript on file with the teacher certification office of the state department of education, earned at an institution of higher education accredited by the state board of education or a regional accrediting association, shall be allowed. Provided however, that successful completion of a state-approved mathematical thinking for instruction course shall be counted as transcripted credit. Instructional staff whose initial certificate is an occupational specialist certificate shall be treated as BA degree prepared instructional staff. Credits earned by such occupational specialist instructional staff after initial certification shall be credited toward the education factor. For the time period July 1, 2010, through June 30, 2011, instructional and administrative staff shall not advance on the education portion of the multiplier table.

In determining the statewide average multiplier for instructional staff, no multiplier in excess of 1.59092 shall be used. If the actual statewide average multiplier for instructional staff, as determined by this section, exceeds 1.59092, then each school district's instructional staff multiplier shall be multiplied by the result of 1.59092 divided by the actual statewide average multiplier for instructional staff.

In determining the statewide average multiplier for administrative staff, no multiplier in excess of 1.86643 shall be used. If the actual statewide average multiplier for administrative staff, as determined by this section, exceeds 1.86643, then each school district's administrative staff multiplier shall be multiplied by the result of 1.86643 divided by the actual statewide average multiplier for administrative staff.

Appendix E – MTI Follow-Up Course Sample

MTI Follow-up Course 4th -10th grade - Spring 2011

Michele Carney michelecarney@boisestate.edu
Gwyneth Hughes gwynethhughes@boisestate.edu
Jackie Ismail jacquelynismail@boisestate.edu

Purpose: provide opportunities for mathematics teachers to enhance their practice through collaboration with colleagues.

Credits Available: 1 professional development credit ($65).

Goals:

- Enhance mathematics teachers' knowledge of grades 4-10 mathematics
- Enhance mathematics teachers' pedagogical knowledge
- Encourage mathematics teachers to develop a reflective practice
- Investigate questions and dilemmas as they arise through instructional practices
- Support mathematics teachers as they establish professional goals, develop leadership skills, collaboration skills, and foster a culture characterized by professional relationships of deep collaboration, non-defensive examination of practice, and a focus on results (Newmann and Wehlage, 1995)
- Help teachers develop a repertoire of effective instructional practices

Activities:

Meetings beginning Tuesday Feb. 22nd (March 8, 22, April 12, 26, May 10), 5:00 – 7:30 pm

- Various topics and formats including discussing case studies, engaging in mathematical discussions about 4-10 mathematics topics and how children think about mathematics, discussing leadership aspects, developing collaborative relationships, establishing personal teaching goals, etc.
- Constructing concept framework, unit, lesson plans
- Developing a reflective instructional practice
- Writing and sharing cases of our own – sharing & discussing various teaching dilemmas – using these as points of discussion, reflection and learning
- Classroom Observations with Feedback Monthly, depending on number of participants
- Including pre/post meetings

Appendix F – MTI Workshops

Title: Ratios and Proportional Reasoning (6th - 8th grade)
Description: Developing ratio and proportional reasoning is a foundational topic to the middle school curriculum and in the Common Core Standards. This workshop will focus on developing understanding of a learning progression for proportional reasoning and important considerations when selecting instructional items.

Title: Warm-Up Tasks that Build Mathematical Understanding (K-8th grade)
Description: Warm-up tasks can be used to both develop and/or remediate students understanding of number. This workshop will focus on three specific warm-up activities that can be easily implemented in the classroom and that will help build important mathematical understandings for all students.

Title: Fraction Understanding (3rd - 5th grade)
Description: Understanding of fractions is fundamental for performing operations. The workshop focuses on building the foundational ideas of unit, equivalence and comparative size of fractions through various representations.

Title: Models for Multiplication: Whole Numbers, Decimals and Percents (3rd - 6th grade)
Description: Developing iconic models for multiplication is important for building students mathematical understanding. This workshop focuses on multiple models for multiplication with whole numbers, decimals & percents.

Title: Composing/Decomposing Number (K - 6 grade)
Description: Investigates the learning progression and importance of composing and decomposing numbers from whole numbers to decimals, connecting them to the operations and how they impact students' strategies.

Title: Number (K - 2 grade)
Description: Investigates students understanding of number and quantity, looking at how students develop number and strategies for instruction.

Title: Introducing Algebra (6 - 9 grade)
Description: This workshop examines methods for introducing algebraic concepts to students in a meaningful and conceptual way and how to move students towards more formal algebraic thinking and procedures. Topics include writing expressions, linear equations and systems of equations.

Title: Meaningful Assessment (4 - 10 grade)
Description: This workshop will examine how we assess students' conceptual and procedural understanding of mathematics. Topics include developing and modifying pre- and post-tests to focus on conceptual understanding and utilizing rubrics to grade student work.

Appendix G – Family Math Night Kits

(each district has 1 kit, unless otherwise noted)

Boise (3 kits available)
Meridian (4 kits available)
Kuna
Meadows Valley
Council
Pocatello / Chubbuck
Bear Lake
St. Maries
Plummer Worley
Blackfoot
Aberdeen
Shelley
Blaine County
Blaine County
Garden Valley
Basin
Horseshoe Bend
West Bonner
Lake Pend Oreille
Idaho Falls
Bonneville
Boundary County
Butte County
Idaho Arts Charter School
Nampa
Nampa
Caldwell
Middleton
Notus
Melba
Parma
Vallivue
Grace
Soda Springs
Cassia County
Clark County
Orofino
Challis
Glenns Ferry
Mountain Home
Preston
West Side
Fremont
Emmett
Gooding
Wendell
Hagerman
Bliss
Cottonwood
Grangeville
Mountain View
Jefferson

Jefferson (2 kits available)
Ririe
Jerome
Jerome
Coeur d'Alene
Coeur d'Alene (2 kits available)
Lakeland
Post Falls
Post Falls (2 kits available)
Moscow
Genesee
Kendrick
Troy
South Lemhi
Nezperce
Dietrich
Madison
Minidoka
Lewiston
Culdesac
Oneida
Marsing
Pleasant Valley
Bruneau Grand View
Homedale
New Plymouth
Fruitland
American Falls
Kellogg
Wallace
Teton
Twin Falls
Buhl
Filer
Kimberly
Hansen
Castleford
Murtaugh
McCall-Donnelly
Cascade
Weiser
Midvale
Compass Public Charter School (Meridian)
Falcon Ridge Public Charter (Kuna)
Garden City Community School
Xavier Charter School (Twin Falls)
Vision Charter School (Caldwell)
White Pine Charter School (Idaho Falls)
North Valley Academy Charter (Gooding)
Palouse Prairie School
Blackfoot Charter Comm. Learning Ctr.

IDEA
IVA
Region 1
Region 2
Region 3
Region 5

Appendix H – Idaho Math Initiative – Additional Detailed Information

Idaho State Department of Education – Math Home Page
http://www.sde.idaho.gov/site/math/

Idaho Math Initiative Home Page
http://www.sde.idaho.gov/site/math/math_initiative.htm

Common Core State Standards (CCSS)
http://www.sde.idaho.gov/site/common/

Mathematical Thinking for Instruction (MTI) Course
http://www.sde.idaho.gov/site/math/mti.htm

Apangea
http://www.sde.idaho.gov/site/math/intervention_tools.htm

Family Math Nights
http://www.sde.idaho.gov/site/math/FamilyMathNight/